

# Work Order ID 85771

Friday, June 15, 2012 9:02:58 AM

**\*85771\***

Page 1

Item ID: D212-725-1-949

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Duct Assembly

Stop **\*NS2\***

Start Date: 6/15/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 6/20/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: MUF Date: 12-06-15 Tooling:

Run Start **\*NR1\***

QC: Date: SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4065	b

100 0.00

**\*100\***

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.00

Thermoforming Machine

Cut Blanks

x 1

*Sh*  
12/06/12

105

0.00

**\*105\***

HandThermo

Memo

0.00

Hand Finishing Thermoforming

Dry Sheet as per QSI022 Polycarbonate

Temp: 240°F

Time IN: 7:00 pm 12/06/17

Time OUT: 6:00 am 12/06/18

x 1

*Sh*  
12/06/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Page 2

Item ID: D212-725-1-949

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Item Name: Duct Assembly

Stop **\*NS2\***

Start Date: 6/15/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 6/20/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
<b>*110*</b>	THERMOFORMING MACHINE								
Thermoform		0.00							
Thermoforming Machine	Memo								
	Thermoform D212-725-1-251 and D212-725-1-253 as per DT9581 and Dwg. D4065 and Folio FTA 071								
	Dwg. Rev. <u>B</u>								
	Folio Rev. <u>C</u>								
120		0.00							
<b>*120*</b>	QC2- Inspect parts off machine FAI/FAIB								
QC		0.00							
Quality Control	Memo								
130		0.00							
<b>*130*</b>	HAND FINISHING THERMOFORMING								
Thermoform		0.00							
Thermoforming Machine	Memo								
	Trim Part D212-725-1-251 AND D212-725-1-253 parts for Assembly								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Page 3

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**\*N9000040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Duct Assembly

Stop **\*NS2\***

Start Date: 6/15/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 6/20/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

140

0.00

**\*140\***

HAND FINISHING THERMORORMING

HandThermo

Memo

0.00

Hand Finishing Thermoforming

1-Scuff mating edges with scotchbrite pad, wipe with wash & wipe and allow to dry.

2-Clamp D212-725-1-251 AND D212-725-1-253 to assembly fixture DT9508

3-Seal mating edges with EZ Adhesive along perimeter with a minimum thickness of 0.020"

4-Clean any excess glue from newly sealed edges

→ M120337.  
EXP. DATE 13/01/04.

x/

Dh  
12/06/13

150

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*150\***

QC

Memo

0.00

Quality Control

x/

Dh  
12/06/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**\*1\***

Cust Item ID:

Required Date: 6/20/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00

**\*160\***

QC

Memo

0.00

Quality Control

8/2/2012

TC

170

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00

**\*170\***

Packaging

Packaging

Memo

SHIP PACKAGE 0.00

0.00

Packaging

C/10/5/20 ①

180

QC21- Final Inspection - Work Order Release

0.00

**\*180\***

QC

Memo

0.00

Quality Control

MCS 12/06/20  
ME  
12-06-20

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

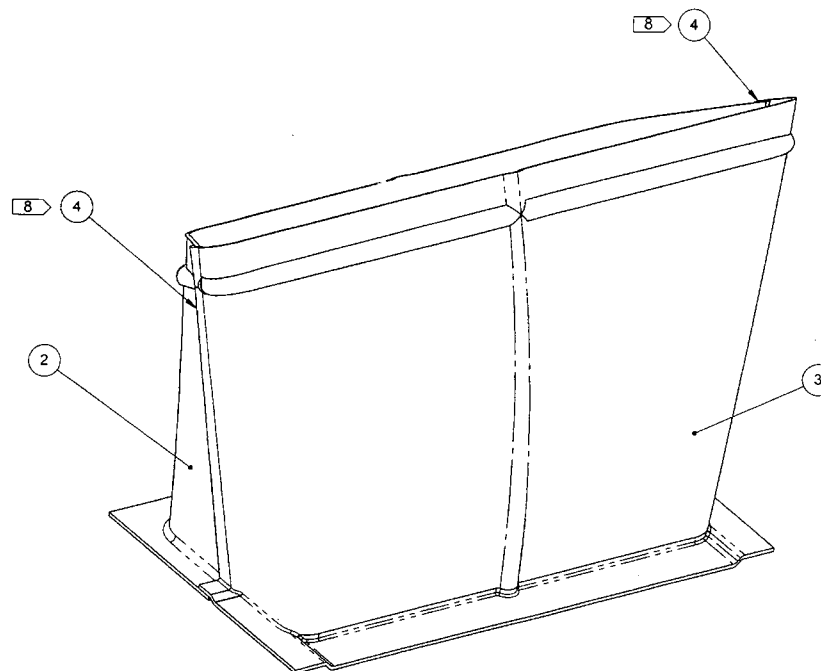
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries



ITEM	QTY	P/N	DESCRIPTION
1	X	D212-725-1-949	DUCT ASSEMBLY
2	1	D212-725-1-251	FWD DUCT
3	1	D212-725-1-253	AFT DUCT
4	A/R	EZ250150	ADHESIVE, 3M SCOTCH WELD



**D212-725-1-949 DUCT ASSEMBLY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.4
- 7) WEIGHT: 0.68 lbs
- 8) SEAL MATING EDGES WITH EZ250150 ADHESIVE ALONG MATING PERIMETER WITH MINIMUM THICKNESS OF 0.020"

**RELEASED**  
2011-08-25  
*MP*

B	D212-725-1-949 WAS D4065-041 (ZN A4-1, D3-1, A4-2); D212-725-1-251 WAS D4065-1 (ZN A4-3, D3-1, C4-2); D212-725-1-253 WAS D4065-3 (ZN A4-4, D3-1, D4-2, B4-2, C1-2)		RF	11.02.24
A	NEW ISSUE		RF	10.04.13
REV.	DESCRIPTION		BY	DATE
DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA		
DRAWN	RF			
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B	
MFG. APPR.	<i>[Signature]</i>	<b>D4065</b>	SHEET 1 OF 4	
APPROVED	<i>[Signature]</i>	TITLE	SCALE	
DE APPR.	<i>[Signature]</i>	<b>DUCT ASSEMBLY</b>	NTS	
DATE	11.02.24		<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

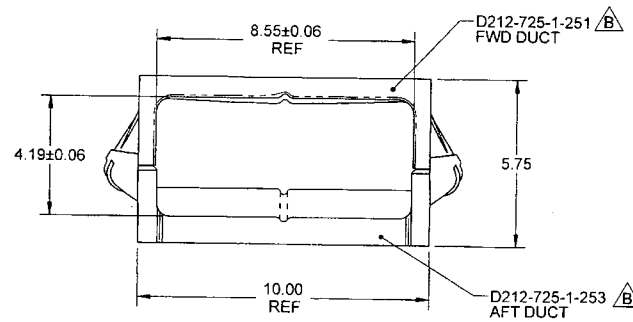
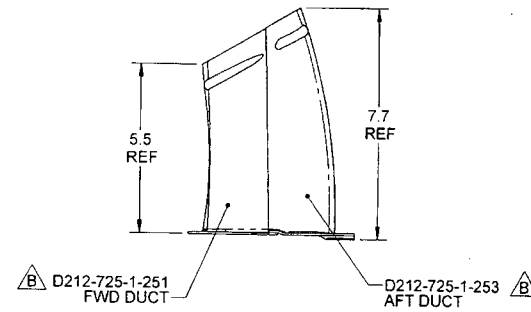
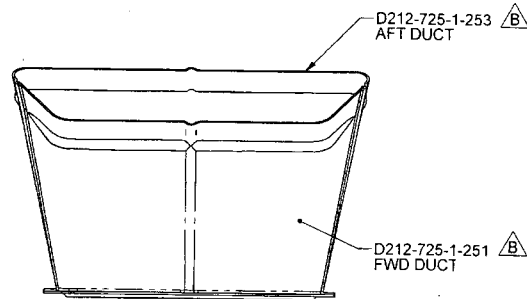
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**NOTE:** Date & initial all entries



**D212-725-1-949 DUCT ASSEMBLY**

85771

**RELEASED**  
2011-08-25

DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. <b>D4065</b>	REV. B
MFG. APPR.	<i>[Signature]</i>	SHEET 2 OF 4	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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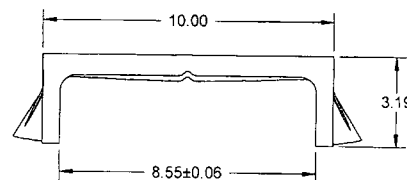
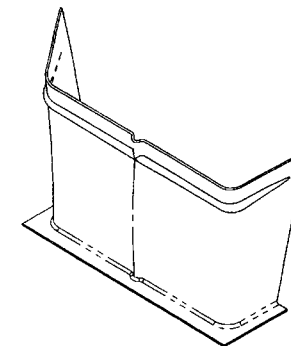
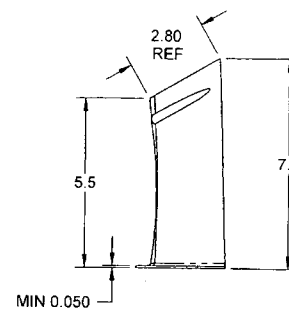
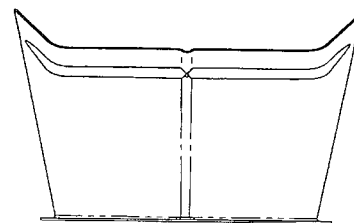
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



# **D212-725-1-251 FWD DUCT**

## **NOTES:**

- 1) MATERIAL: LEXAN F6000 POLYCARBONATE, 0.093 THICK, SUEDE/POLISHED TEXTURE, BLACK SHEET  
REF DART SPEC. MLEXS.093-F6006-02
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.30 lbs
- 8) TOOLING: THERMOFORM PER MOLD DT9581 PER QSI 022. TRIM PER MOLD
- 9) MINIMUM THICKNESS: 0.050" UNLESS OTHERWISE NOTED

**RELEASED**  
R 2011-08-25  
WNP

DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO. <b>D4065</b>	REV. B
MFG. APPR.		SHEET 3 OF 4	
APPROVED		TITLE	SCALE
DE APPR.		<b>DUCT ASSEMBLY</b>	NTS
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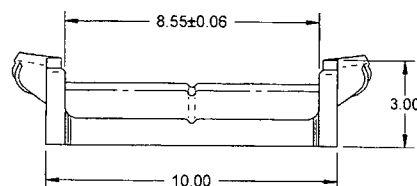
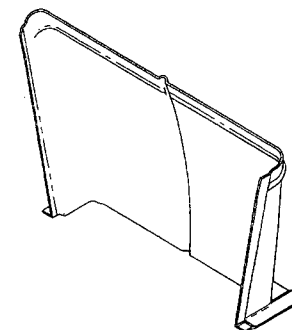
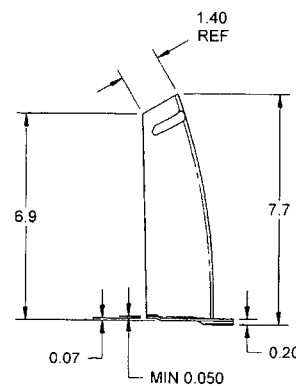
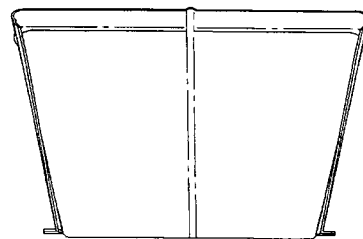
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



#85771

RELEASED  
2011-08-25

D212-725-1-253 AFT DUCT

**NOTES:**

- 1) MATERIAL: LEXAN F6000 POLYCARBONATE, 0.093 THICK, SUEDE/POLISHED TEXTURE, BLACK SHEET  
REF DART SPEC. MLEXS.093-F6006-02
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.38 lbs
- 8) TOOLING: THERMOFORM PER MOLD DT9581 PER QSI 022. TRIM PER MOLD
- 9) MINIMUM THICKNESS: 0.050" UNLESS OTHERWISE NOTED

DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
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CHECKED		DRAWING NO. <b>D4065</b>	REV. B
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<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 85771
<b>Description:</b> DUCT ASSY	<b>Part Number:</b> D913-725-1-949
<b>Inspection Dwg:</b> D4065 Rev: B	<b>Page 1 of 1</b>

## FIRST ARTICLE INSPECTION CHECKLIST

### THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than <u>N/A</u> "				
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

<b>Measured by:</b> <u>OK</u>	<b>Date:</b> <u>12/06/18</u>
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### TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
10.00"	Ref.	10.00"	✓		TAPE DL-01	
5.75"	+/- 0.030	5.75"	✓		TAPE DL-01	
5.5"	Ref.	5.5"	✓		TAPE DL-01	
7.7"	Ref.	7.75"	✓		TAPE DL-01	
8.55"	+/- 0.06	8.55"	✓		TAPE DL-01	
4.19"	+/- 0.06	4.195"	✓		TAPE DL-02	

<b>Measured by:</b> <u>OK</u>	<b>Date:</b> <u>12/06/18</u>
<b>Audited by:</b> <u>B</u>	<b>Date:</b> <u>12/06/18</u>
<b>Preliminary Approval:</b>	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

10.04.14